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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Michael Tombs

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EXAMINER

LAMB, BRENDA A

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

09/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/044,798	Applicant(s) TOMBS ET AL.	
	Examiner Brenda A. Lamb	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,9,19,20,25-29 and 32-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,9,19,20,25-29 and 32-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/8/2008 has been entered.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9,19,25-28 and 32-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 is confusing since it is unclear how the means for lowering the solder surface set forth at lines 7-8 relates to means at line 11-12 which also claims the recited means function to lower solder surface (duplicate claim language ?). Claim 25 is confusing since it is unclear how the means for lowering the solder surface set forth at lines 7-8 relates to means at line 9-10 which also claims the recited means function to lower solder surface (duplicate claim language ?). Claim 32 is confusing since it is unclear how the means for lowering the solder surface set forth at lines 9-10 relates to means at line 10-11 which also claims the recited means function to lower solder surface (duplicate claim language ?).

Applicant is advised that should claim 29 be found allowable, claim 33 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing

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one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

Applicant is advised that should claim 20 be found allowable, claim 27 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Applicant is advised that should claim 9 be found allowable, claim 28 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

It is noted that claims 8,19,20,25,29 and 32 have been currently amended yet have not been provided with the proper status identifier as is required under 37 CFR 1.121 and the insertion of claim language in claims 8,14,19,20,25,29 and 32 have not underlined as required under 37 CFR 1.121. It is noted that claim 9 has inserted claim language without underlining as required under 37 CFR 1.121 (see lines 7-8 of claim 9).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 8-9,20,25-29 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 10-70360 in view of Applicant's Admitted Prior Art Teaching (hereafter referred to as Applicant's PAT see Figure 1 and page 6 lines 4-10 of the instant specification).

Japan '360 teaches the design of a dip coating apparatus comprised of a nozzle/reservoir 4 having an outlet through which solder is flowed wherein the nozzle includes a member/elongate plate 6 provided at the nozzle outlet. Japan '360 teaches member/elongate plate 6 having an upwardly facing surface and side surfaces

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extending downwardly and is made of material which is wetted by the molten solder.

Japan '360 fails to teach a means for lowering the solder surface in order to effect withdrawal of the component leads from the solder. However, it would have been obvious to modify the Japan '360 apparatus by providing a means for lowering the solder surface in order to effect withdrawal of the component leads from the solder such as one disclosed by Applicant's PAT since Applicant's PAT teaches the speed of impeller 12 may be reduced to drop the solder surface away from the under side of the board/substrate for the obvious advantage of removing excess from the substrate at the end of the coating process. Further, Japan '360 apparatus is capable of coating component leads of a substrate which are selective movable between a raised and lowered conditioned for being dipped into the solder surface at the nozzle outlet since Japan '360 as modified teaches every structural element of the apparatus as set forth in claims 8, 32 and 25. With respect to claims 9 and 28, the same rejection applied to claims 8, 32 and 34 are applied here. Although Japan '360 fails to teach the member is positioned to project through the solder surface as the leads are withdrawn from the solder, it would have been obvious given the modifications of the Japan '360 apparatus as discussed above with the means for lowering the solder surface in order to effect withdrawal of the component leads from the solder would have enabled the member to project through the solder surface as the leads are withdrawn from the solder to obviously prevent re-wetting of the board/substrate with solder. With respect to claims 20, 27, 29 and 33, the same rejection applied to claims 8 and 32 are applied here.

Japan '360 shows in Figure 1 that the slots arranged at the end portions of

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member/elongate plate 6 interlocks with the upper end edge of the tank 3. Japan '360 fails to teach that member/elongate plate 6 is movable. However, it would have been obvious given the modifications of the Japan '360 apparatus as discussed above to arrange the interlocked member/elongate plate 6 such that it is manually movable or removable from the tank 3 for the obvious reason to facilitate maintenance of the coating apparatus or to enable one to line up the member with the conveyor system. With respect to claim 26, Japan '360 teaches that a portion of the member/elongate plate is disposed below the level of the solder as the solder flows through the nozzle outlet.

Claims 19 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 10-70360 in view of Applicant's Admitted Prior Art Teaching (hereinafter referred to as Applicant's PAT see Figure 1 and page 6 lines 4-10 of the instant specification) and Elliott et al 3,196,829 and Barnes et al 3,056,370.

Japan '360 is applied for the reasons noted above but fails to teach member/elongate plate is a honeycombed structure. However, it would have been obvious given the modifications of the Japan '360 apparatus as discussed above to provide the member/elongate plate with a honeycombed structure since Elliott et al and Barnes et al both teach arranging a honeycombed structure in the flow bath of solder through the nozzle/reservoir to straighten flow of solder thereby helping to eliminate turbulence of the solder and providing a level wave of solder.

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda A. Lamb whose telephone number is (571) 272-1231. The examiner can normally be reached on Monday-Tuesday and Thursdays. The examiner can also be reached on alternate Wednesdays and Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton, can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brenda A Lamb
Primary Examiner
Art Unit 1792

/Brenda A Lamb/

Primary Examiner, Art Unit 1792